

### Abstract

Methods and materials for treating tissues to reduce the risk of transplant rejection are described, along with methods for determining the risk of rejection of transplants. The level of expression of various senescence-associated genes, such as G22P1, XRCC5, hPOT1 and SIRT2 and homologues or analogues thereof, is considered indicative of tissue rejection, and their levels may be modulated to reduce the risk of rejection. The tissue are preferably renal tissues.